AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER MANAGEMENT DIVISION
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

FACT SHEET
(July 2006)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

NPDES NO: VT0100056
FILE NO: 11-02
PERMIT NO: 3-1196
PROJECT ID NO: RU96-0140

NAME AND ADDRESS OF APPLICANT:

Town of Brandon
49 Center Street
Brandon, VT 05733

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Brandon Wastewater Treatment Facility
500 Union Street
Brandon, Vermont

RECEIVING WATER: Neshobe River

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for bathing and recreation, irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable for public water supply with filtration and disinfection. A waste management zone is a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant applied on May 31, 2006 to the Vermont Department of Environmental Conservation for renewal of the permit to discharge into the designated receiving water. At this time the Department has made a tentative decision to reissue the discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Town of Brandon Wastewater Treatment Facility to the Neshobe River.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations:	Page 2 of 18
Monitoring Requirements:	Page 3 through 6 of 18

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of Brandon owns and operates the Brandon Wastewater Treatment Facility, an activated sludge extended aeration process that provides phosphorus removal. Dechlorination (added in 1992) follows the addition of liquid chlorine for disinfection. Solids are trucked to the City of Rutland WWTF for dewatering. The collection system consists of seven pump stations.

The original facility was constructed in 1960 and upgraded in 1974. Additional significant upgrades began in July 2005 including the replacement of the three influent pumps and controls, replacement of the South Oxidation Ditch rotor and a new cover, addition of a new chlorination/dechlorination chemical feed/storage building, and the replacement of the sludge recirculation pumps/controls.

Flow - The effluent flow limitation remains at 0.7 MGD, annual average, representing the facility's design flow. The facility maintains a continuous discharge.

Biochemical Oxygen Demand (BOD_5) - The effluent limitations for biochemical oxygen demand remain unchanged from the previous permit. The monthly average (30 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/l, maximum day, BOD limitation. This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (175 lbs/day, monthly average and 263 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD monitoring requirement is proposed to be changed from weekly to twice monthly.

Total Suspended Solids (TSS) - The effluent limitations for total suspended solids remain unchanged from the previous permit. The monthly average (30 mg/l) and weekly average (45 mg/l) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/l, maximum day, TSS

limitation. This is the Department standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (175 lbs/day, monthly average and 263 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS monitoring requirement is proposed to be changed from weekly to twice monthly.

pH - The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards, effective July 2, 2000. Monitoring remains at daily.

Settleable Solids - The limitation of 1.0 ml/l instantaneous maximum and daily monitoring remain unchanged from the previous permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5. of the Vermont Water Quality Standards, effective July 2, 2000.

Ultimate Oxygen Demand and Total Kjeldahl Nitrogen – On the basis of assimilative capacity modeling on the Neshobe River, the Department has determined that a UOD limit of 200 lbs/day is appropriate. The permit includes this limit to be calculated based upon the quantity of flow, BOD, and TKN. The limit will require that the WWTF fully nitrify the effluent during the summer months in order to meet this limit consistently and avoid violations. A mean cell residence time of greater than 20 days and adequate dissolved oxygen levels (greater than 1 – 2 mg/l at all times and the potential to achieve greater than 4 mg/l in spring) are critical to achieving and remaining in complete nitrification.

The UOD limit of 200 lbs/day remains unchanged from the previous permit. TKN monitoring during the summer months (June through October) is proposed to be changed from monthly to twice monthly.

Total Phosphorus - The concentration limitation of 0.8 mg/l, monthly average, remains unchanged from the previous permit. The concentration limit is based on requirements in Title 10, Chapter 47 §1266a. Monitoring is proposed to be changed from weekly to twice monthly.

In addition, The 2002 "Lake Champlain Phosphorus Total Maximum Daily Load" established a phosphorus mass loading allocation for the Brandon WWTF utilizing an effluent concentration of 0.6 mg/l at the design flow of the facility (0.7 MGD). That allocation (0.580 metric tons per year or 1278 pounds per year) is being incorporated into this permit.

The annual total pounds is the sum of the twelve monthly totals, which are calculated by multiplying the total monthly flow x the monthly average phosphorus concentration x 8.34. The annual total must be submitted with the December monthly monitoring report and the running total pounds for each calendar year shall be included with each month's self-monitoring report.

***E. coli* Bacteria** - The *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards, effective July 2, 2000. Weekly monitoring remains the same as in the previous permit.

Total Residual Chlorine (TRC) - The TRC limit of 0.1 mg/l is based on meeting the instream water quality acute and chronic chlorine criteria (0.019 mg/l and 0.011 mg/l respectively) in the Vermont Water Quality Standards, effective July 2, 2000 for the protection of aquatic biota. Daily monitoring is required.

Whole Effluent Toxicity (WET) and Priority Pollutant Testing - 40 CFR Part 122.44(d)(1) requires the Department to assess whether the discharge causes, has the reasonable potential to cause, or contribute to an excursion above any narrative or numeric water quality criteria. Whole Effluent Toxicity testing is being required in accordance with the 1994 Vermont Toxic Discharge Control Strategy. The intent of the WET testing is to confirm the results of the WET testing conducted by the Town in March 2005 and August 2005. Those summer results indicated that this discharge did not have the potential to cause an instream toxic impact. However, acute toxicity (*before* considering dilution in the receiving water) for *daphnia* was indicated in the winter test so additional testing is warranted at this time. Confirmation that the findings are still valid is required by the Vermont Toxic Discharge Control Strategy at permit renewal. If the results of these tests indicate a reasonable potential to cause an instream toxic impact, the Department may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

The proposed permit includes one two-species acute/chronic WET test in January 2007 and one two-species acute test in August or September 2010.

Additional Monitoring - For all facilities with a design flow of greater than 0.1 MGD, 40 CFR § 122.21(j), Application for a permit, requires the submittal of effluent monitoring data for those parameters identified in Condition I.F.3. of the permit.

Samples must be collected once annually during various seasons (i.e. include each of the four quarters during the permit period) and the results submitted by December 31 of each year.

Waste Management Zone - As defined under 10 V.S.A. §1251(16), a waste management zone is "a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge".

The proposed permit retains the existing waste management zone (WMZ) that extends downstream from the outfall for approximately 1.8 miles in the Neshobe River.

Electric Power Failure - Within 30 days of the effective date of the permit, the permittee must submit to the Department, updated documentation addressing how the discharge will be handled in the event of an electric power outage. The effluent must receive a minimum of primary treatment (or in the case of ultraviolet light disinfection systems, not less than secondary treatment) plus disinfection.

V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from July 31 through August 30, 2006 during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on August 30, 2006 will be retained by the Department and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Department.

Written comments should be sent to:

Vermont Agency of Natural Resources
Department of Environmental Conservation
Wastewater Management Division - Sewing Building
103 South Main Street
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Department will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Department and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Department may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Department and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the current Secretary of State Official Fee Schedule for Copying Public Records from 8:00 AM to 4:30 PM, Monday through Friday. The draft permit and fact sheet may also be viewed on the Division's website at www.anr.state.vt.us/dec/ww/wwmd.cfm .

No comments were received during the public notice period.

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USGS **1 km SW of Brandon, Vermont, United States** 08 May 1993

Image courtesy of the U.S. Geological Survey